

AMENDMENTS TO THE CLAIMS

Claims 1-31 were filed originally and were pending at the time of the Action.

Claims 7, 8, 17, 18, 21, and 29 are amended.

Claims 1-31 remain pending.

1. (Original) A method for performing resource discovery in a network having multiple subnets and wherein inter-subnet discovery agents installed on nodes within the multiple subnets support inter-subnet resource discovery, the method comprising:

designating, within a first subnet, a first inter-subnet discovery agent on a first node as an active discovery agent;

discovering, by the first inter-subnet discovery agent, active discovery agents on neighboring subnets in the network; and

propagating, by the first node containing the active discovery agent, an inter-subnet resource discovery search request to the active discovery agents on neighboring subnets.

2. (Original) The method of claim 1 wherein the resource discovery search request is a network device discovery request.

3. (Original) The method of claim 2 wherein the network device discovery request is a request to identify printers in the network.

1 4. (Original) The method of claim 1 wherein the discovering step
2 includes:

3 receiving, by the first node containing the first active discovery agent,
4 from a second node containing an active discovery agent on a neighboring
5 subnet, information comprising a network address of the second node containing
6 the active discovery agent; and

7 storing, by the first node, the information in a list identifying neighboring
8 active discovery agents.

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10 5. (Original) The method of claim 4 further comprising the steps
11 of:

12 receiving, by the first node containing the active discovery agent, a
13 request to provide discovery information for a discoverable resource and in
14 response performing, during the propagating step, the sub-steps of:

15 passing the request to the active discovery agent on the first node;

16 searching, by the active discovery agent on the first node, the list
17 of neighboring active discovery agents; and

18 issuing, by the first node, a search request identifying a resource
19 discovery requester to at least one neighboring active discovery agent in
20 the list identifying neighboring active discovery agents.

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22 6. (Original) The method of claim 5 further comprising the step of:
23 transmitting, by the first node containing the active discovery agent, to the
24 resource discovery requester a response including resource discovery
25 information corresponding to the discoverable resource.

1 7. (Presently amended) The method of claim 4 further
2 comprising:

3 publishing, by at least one ~~the~~ node, address information for neighboring
4 active discovery agents into a network directory service.

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6 8. (Presently amended) The method of claim 1 wherein at least
7 one ~~the~~ node comprises a set of device discovery agents, further comprising the
8 step of:

9 determining, by the set of device discovery agents, discovery information
10 for discoverable resources present on the subnet.

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12 9. (Original) The method of claim 1 wherein the designating step
13 comprises:

14 automatically selecting, as the active discovery agent, the first inter-
15 subnet discovery agent from a set of installed discovery agents in the first subnet
16 according to a criterion.

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18 10. (Original) The method of claim 1 wherein the designating step
19 comprises:

20 manually selecting, as the active discovery agent, the first inter-subnet
21 discovery agent from a set of installed discovery agents in the first subnet.

1 11. (Original) A computer-readable medium having computer-
2 executable instructions for facilitating performing resource discovery in a
3 network having multiple subnets and wherein inter-subnet discovery agents
4 installed on nodes within the multiple subnets support inter-subnet resource
5 discovery, the computer-readable medium having computer-executable
6 instructions facilitating performing the steps of:

7 designating, within a first subnet, a first inter-subnet discovery agent on a
8 first node as an active discovery agent;

9 discovering, by the first inter-subnet discovery agent, active discovery
10 agents on neighboring subnets in the network; and

11 propagating, by the first node containing the active discovery agent, an
12 inter-subnet resource discovery search request to the active discovery agents on
13 neighboring subnets.

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15 12. (Original) The computer-readable medium of claim 11 wherein
16 the resource discovery search request is a network device discovery request.

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18 13. (Original) The computer-readable medium of claim 12 wherein
19 the network device discovery request is a request to identify printers in the
20 network.
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1 14. (Original) The computer-readable medium of claim 11 wherein
2 the discovering step includes:

3 receiving, by the first node containing the first active discovery agent,
4 from a second node containing an active discovery agent on a neighboring subnet,
5 information comprising a network address of the second node containing the active
6 discovery agent; and

7 storing, by the first node, the information in a list identifying neighboring
8 active discovery agents.

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10 15. (Original) The computer-readable medium of claim 14 further
11 comprising the steps of:

12 receiving, by the first node containing the active discovery agent, a
13 request to provide discovery information for a discoverable resource and in
14 response performing, during the propagating step, the sub-steps of:

15 passing the request to the active discovery agent on the first node;

16 searching, by the active discovery agent on the first node, the list of
17 neighboring active discovery agents; and

18 issuing, by the first node, a search request identifying a resource
19 discovery requester to at least one neighboring active discovery agent in
20 the list identifying neighboring active discovery agents.

1 16. (Original) The computer-readable medium of claim 15 further
2 comprising the step of:

3 transmitting, by the first node containing the active discovery agent, to the
4 resource discovery requester a response including resource discovery information
5 corresponding to the discoverable resource.

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7 17. (Presently amended) The computer-readable medium of
8 claim 14 further comprising:

9 publishing, by at least one ~~the~~ node, address information for
10 neighboring active discovery agents into a network directory service.

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12 18. (Presently amended) The computer-readable medium of claim
13 11 wherein at least one ~~the~~ node comprises a set of device discovery agents,
14 further comprising the step of:

15 determining, by the set of device discovery agents, discovery information
16 for discoverable resources present on the subnet.

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18 19. (Original) The computer-readable medium of claim 11 wherein
19 the designating step comprises:

20 automatically selecting, as the active discovery agent, the first inter-
21 subnet discovery agent from a set of installed discovery agents in the first
22 subnet according to a criterion.

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1 20. (Original) The computer-readable medium of claim 11 wherein
2 the designating step comprises:

3 manually selecting, as the active discovery agent, the first inter-subnet
4 discovery agent from a set of installed discovery agents in the first subnet.

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6 21. (Presently amended) A resource discovery framework for
7 resource discovery embodied in a computer-readable medium in a network
8 including multiple subnets and discoverable networked resources, the
9 framework comprising:

10 an active discovery agent designated for ones of the multiple subnets for
11 identifying active discovery agents on neighboring subnets within the network;

12 a selection mechanism for designating the active discovery agent within
13 each

14 subnet; and

15 a request propagation mechanism by which nodes containing the active
16 discovery agents propagate an inter-subnet resource discovery search request to
17 active discovery agents on neighboring subnets.

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19 22. (Original) The resource discovery framework of claim 21
20 wherein a list is maintained by each active discovery agent identifying the active
21 discovery agent for neighboring subnets.

1 23. (Original) The resource discovery framework of claim 22,
2 further including:

3 a directory service in communication with the active discovery agents in
4 the network, the directory service including information corresponding to the lists
5 maintained by the active agents.

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7 24. (Original) A system for automating network-wide resource
8 discovery in networks having multiple subnets:

9 a set of inter-subnet discovery agents installed on nodes within the
10 multiple subnets support inter-subnet resource discovery; and

11 a first inter-subnet discovery agent on a first node designated as an active
12 discovery agent, the first inter-subnet discovery agent including procedures for
13 facilitating:

14 discovering active discovery agents on neighboring subnets in the network;
15 and

16 propagating an inter-subnet resource discovery search request to the
17 active discovery agents on neighboring subnets.

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19 25. (Original) The system of claim 24 wherein the resource
20 discovery search request is a network device discovery request.

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22 26. (Original) The system of claim 25 wherein the network device
23 discovery request is a request to identify printers in the network.

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1 27. (Original) The system of claim 24 wherein the procedure for
2 discovering active discovery agents facilitates:

3 receiving, by the first node containing the first active discovery agent,
4 from a second node containing an active discovery agent on a neighboring subnet,
5 information comprising a network address of the second node containing the
6 active discovery agent; and

7 storing, by the first node, the information in a list identifying neighboring
8 active discovery agents.

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10 28. (Original) The system of claim 27 wherein the first inter-subnet
11 discovery agent includes procedures that facilitate, in response to receiving a
12 request to provide discovery information for a discoverable resource, generating
13 a response by:

14 searching the list of neighboring active discovery agents; and

15 issuing a search request identifying a resource discovery requester
16 to at least one neighboring active discovery agent in the list identifying
17 neighboring active discovery agents.

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19 29. (Presently amended) The system of claim 28 wherein the
20 first inter-subnet discovery agent includes procedures that facilitate:

21 transmitting, by the first node, to the resource discovery requester a
22 response including resource discovery information corresponding to the
23 discoverable resource.

1 30. (Original) The system of claim 27 wherein the first node
2 further comprises procedures facilitating publishing address information for
3 neighboring active discovery agents, obtained by the first inter-subnet discovery
4 agent, into a network directory service.

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6 31. (Original) The system of claim 24 wherein the first node
7 comprises a set of device discovery agents for determining discovery
8 information for discoverable resources present on the subnet.